

## AM-CW Integrated Path Differential Absorption Lidar, Phase I

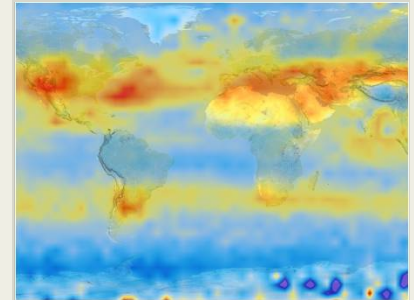
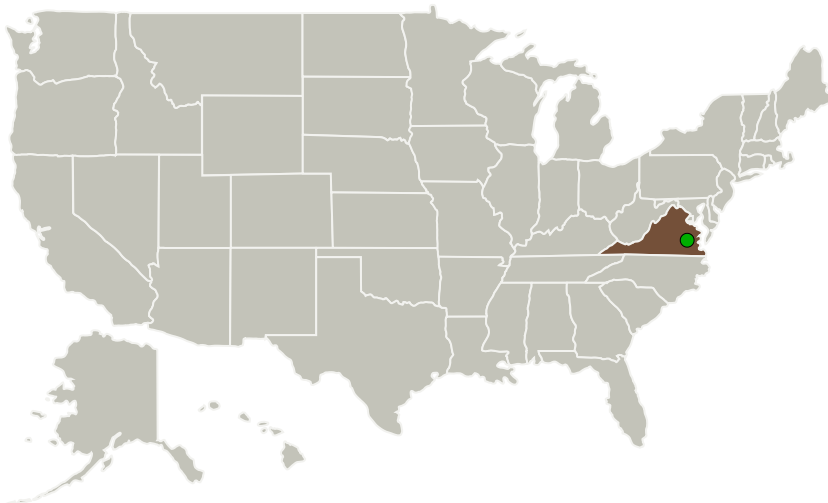
Completed Technology Project (2013 - 2013)



## Project Introduction

This proposal addresses NASA's science objectives with innovative lidar architecture for atmospheric CO<sub>2</sub> measurements. Specifically, the proposed work can support and potentially enhance the Active Sensing of CO<sub>2</sub> Emissions over Nights, Days, and Seasons (ASCENDS) technologies. Using an active laser measurement technique, our system is designed to enhance the capabilities of CO<sub>2</sub> remote sensing from high-latitude regions and nighttime observations with sensitivity in the lower atmosphere, and enable investigations of the climate-sensitive southern ocean and permafrost regions, provide insight into the diurnal cycle and plant respiration processes, and provide useful new constraints to global carbon cycle models.

## Primary U.S. Work Locations and Key Partners



AM-CW Integrated Path  
Differential Absorption Lidar

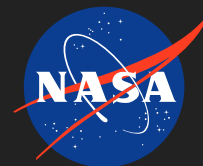
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Organizations Performing Work	Role	Type	Location
Coherent Applications, Inc.	Lead Organization	Industry Minority- Owned Business	Hampton, Virginia
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

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## Primary U.S. Work Locations

Virginia

## Project Transitions

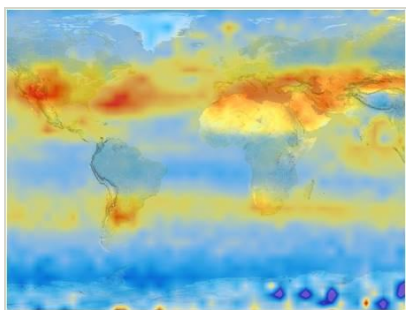
**May 2013:** Project Start

**November 2013:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137995>)

## Images



### Project Image

AM-CW Integrated Path Differential Absorption Lidar  
(<https://techport.nasa.gov/image/126550>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Coherent Applications, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

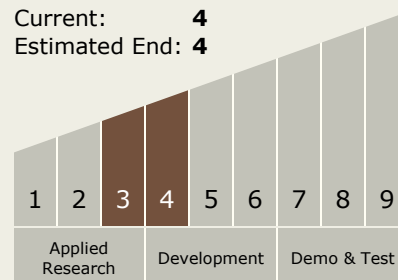
Carlos Torrez

### Principal Investigator:

Diego Pierrottet

## Technology Maturity (TRL)

Start: **3**  
Current: **4**  
Estimated End: **4**



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## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
    - └ TX08.1.5 Lasers

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System